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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/542,894	07/20/2005	Antonius Adrianus Kalker	NL 030099	8431

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EXAMINER	
TRUVAN, LEYNNA THANH	

ART UNIT	PAPER NUMBER
2435	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/542,894	KALKER ET AL.	
	Examiner	Art Unit	
	Leynna T. Truvan	2435	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 July 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-9* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *3/21/06 & 3/24/06*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-9 are pending.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on 3/21/06 and 3/24/06 was filed after the mailing date of the Transmittal of New Application on 7/20/2005. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tian (US 7,389,420), in view of Lee, et al. (US 7,460,667).

As per claim 1:

Tian discusses a method of embedding auxiliary data in a host signal, comprising the steps of:

using a data embedding method having an embedding rate and distortion *[to produce a composite signal]*; (*col.1, lines 52-60 and col.5, lines 21-29)*

using a first portion of said embedding rate to accommodate restoration data for restoring the host signal *(col.9, line 46 - col.10, line 3)* and a second portion of said embedding rate for embedding said auxiliary data; *(col.5, lines 30-36 and col.7, lines 41-54)*

characterized in that the method comprises the step of using a third portion of said embedding rate for embedding error correcting data to correct errors in said restoration data and/or auxiliary data. *(col.5, lines 41-46 and col.10, lines 30-57)*

Tian discloses embedding hidden data in media signals which includes hiding auxiliary data wherein the method compresses a first media signal and embeds the first media signal into a second media signal (*col.1, lines 52-60).* Tian includes dividing or segmenting the host signal into blocks and regions where this method can be used to hide one media signal into another (such as one image into another) (*col.5, lines 21-29).* Although, Tian obviously suggests combining embedded data that forms or produces a composite signal, however, did not clearly disclose a composite signal.

Lee discloses the method and apparatus for carrying auxiliary data in a digital signal without affecting the perceived quality of the signal (col.1, lines 13-15 and 40-44). Thus, it would be desirable to provide auxiliary data in a (host) primary data signal *(col.15, lines 55-56)* using the primary data signal itself rather than carrying additional bits in a separate auxiliary data signal. Hence, Lee discloses a system for embedding a plurality of auxiliary digital information bits into

an existing primary digitally encoded signal to form an unobjectionable composite digital signal *(col.1, line 64 – col.2, line 9 and col.8, lines 10-12)*.

Therefore, it would have been obvious for a person of ordinary skills in the art at the time the invention was made to combine the teachings of Tian and Lee to include a composite signal because it is desirable to embed auxiliary data into host primary signal without degrading the quality of the host signal and to carry additional bits in a separate auxiliary data signal (Lee - col.1, lines 40-67).

As per claim 2:

Tian discusses a method of embedding auxiliary data in a host signal, comprising the steps of:

segmenting the host signal; (*col.5, lines 30-33 and* col.9, lines 44-52)

using a predetermined data embedding method having a given embedding rate and distortion for embedding data in a host signal segment, to produce a respective *[composite signal]* segment; (*col.1, lines 52-60 and col.5, lines 21-29)*

determining restoration data identifying the host signal segment conditioned on the *[composite signal]* segment; and *(col.7, lines 10-22 and 41-54)*

embedding said restoration data in a subsequent host signal segment using a portion of the embedding rate; *(col.5, lines 33-36 and col.9, line 46 - col.10, line 3)*

characterized in that the method further comprises the step of:

generating error correction data for correcting errors in the *[composite signal]* segment; (*col.10, lines 28-35*)

embedding said error correction data in the subsequent host signal segment using a further portion of the embedding rate; and *(col.5, lines 41-46)*

embedding auxiliary data in a host signal segment using the remaining portion of the embedding rate. (col.4, lines 4-65)

Tian discloses embedding hidden data in media signals which includes hiding auxiliary data wherein the method compresses a first media signal and embeds the first media signal into a second media signal *(col.1, lines 52-60)*. Tian includes dividing or segmenting the host signal into blocks and regions where this method can be used to hide one media signal into another (such as one image into another) *(col.5, lines 21-29)*. Although, Tian obviously suggests combining embedded data that forms or produces a composite signal, however, did not clearly disclose a composite signal.

Lee discloses the method and apparatus for carrying auxiliary data in a digital signal without affecting the perceived quality of the signal (col.1, lines 13-15 and 40-44). Thus, it would be desirable to provide auxiliary data in a (host) primary data signal *(col.15, lines 55-56)* using the primary data signal itself rather than carrying additional bits in a separate auxiliary data signal. Hence, Lee discloses a system for embedding a plurality of auxiliary digital information bits into an existing primary digitally encoded signal to form an unobjectionable composite digital signal *(col.1, line 64 – col.2, line 9 and col.8, lines 10-12)*.

Therefore, it would have been obvious for a person of ordinary skills in the art at the time the invention was made to combine the teachings of Tian and Lee

to include a composite signal because it is desirable to embed auxiliary data into host primary signal without degrading the quality of the host signal and to carry additional bits in a separate auxiliary data signal (Lee - col.1, lines 40-67).

As per claim 3: See Tian on col.9, lines 44-67 and Lee on col.1, lines 40-67; discussing a method as claimed in claim 2, wherein each segment comprises the restoration data and error correction data for a previous segment as well as auxiliary data.

As per claim 4: See Tian on col.9, lines 44-52 Lee on col.1, lines 40-67; discussing a method as claimed in claim 3, wherein the segments have equal lengths.

As per claim 5: See Tian on col.1, lines 52-61 and col.5, lines 21-46 and Lee on col.1, lines 40-67; discussing a method as claimed in claim 2, comprising the steps of: (a) embedding auxiliary data only in a first host signal segment having a given length; (b) embedding, in a subsequent segment, the restoration data and error correction data for the previous segment; (c) adapting the length of said subsequent segment to the amount of said restoration data and error correction data; and (d) repeating steps (b) and (c) until the length of the subsequent segment is smaller than a given threshold.

As per claim 6:

Tian discusses an arrangement for embedding auxiliary data in a host signal, comprising:

segmentation means for segmenting the host signal; (*col.5, lines 30-33 and col.9, lines 44-52*)

a predetermined data embedder having a given embedding rate and distortion for embedding data in a host signal segment, to produce a respective *[composite signal]* segment; (*col.1, lines 52-60 and col.5, lines 21-29)*

means for determining restoration data identifying the host signal segment conditioned on the *[composite signal]* segment; and *(col.7, lines 10-22 and 41-54)*

the data embedder being arranged to embed said restoration data in a subsequent host signal segment using a portion of the embedding rate; *(col.5, lines 33-36 and col.9, line 46 - col.10, line 3)*

characterized in that the arrangement further comprises means for generating error correction data for correcting errors in the *[composite signal]* segment (*col.10, lines 28-35*), the data embedder further being arranged to embed said error correction data in the subsequent host signal segment using a further portion of the embedding rate *(col.5, lines 41-46)*, and to embed auxiliary data in a host signal segment using the remaining portion of the embedding rate. (col.4, lines 4-65)

Tian discloses embedding hidden data in media signals which includes hiding auxiliary data wherein the method compresses a first media signal and embeds the first media signal into a second media signal (*col.1, lines 52-60).* Tian includes dividing or segmenting the host signal into blocks and regions where this method can be used to hide one media signal into another (such as one image

into another) *(col.5, lines 21-29)*. Although, Tian obviously suggests combining embedded data that forms or produces a composite signal, however, did not clearly disclose a composite signal.

Lee discloses the method and apparatus for carrying auxiliary data in a digital signal without affecting the perceived quality of the signal (col.1, lines 13-15 and 40-44). Thus, it would be desirable to provide auxiliary data in a (host) primary data signal *(col.15, lines 55-56)* using the primary data signal itself rather than carrying additional bits in a separate auxiliary data signal. Hence, Lee discloses a system for embedding a plurality of auxiliary digital information bits into an existing primary digitally encoded signal to form an unobjectionable composite digital signal *(col.1, line 64 – col.2, line 9 and col.8, lines 10-12)*.

Therefore, it would have been obvious for a person of ordinary skills in the art at the time the invention was made to combine the teachings of Tian and Lee to include a composite signal because it is desirable to embed auxiliary data into host primary signal without degrading the quality of the host signal and to carry additional bits in a separate auxiliary data signal (Lee - col.1, lines 40-67).

As per claim 7: See Tian on col.9, lines 44-67 and col.10, lines 28-35 and Lee on col.1, lines 40-67; discussing a method of reconstructing a host signal from a composite signal produced by a method as claimed in claim 2, comprising the steps of: segmenting said composite signal; retrieving from a composite signal segment the error correction data embedded therein; using said error correction

data to correct errors in a previous composite signal segment; retrieving from the composite signal segment restoration data embedded therein; and using said restoration data to reconstruct the previous host signal segment given the previous composite signal segment.

As per claim 8: See Tian on col.9, lines 44-67 and col.10, lines 28-35 and Lee on col.1, lines 40-67; discussing an arrangement for reconstructing a host signal from a composite signal produced by a method as claimed in claim 2, comprising: segmentation means for segmenting said composite signal; means for retrieving from a composite signal segment the error correction data embedded therein; error correction means for correcting errors in a previous composite signal segment using said error correction data; means for retrieving from the composite signal segment restoration data embedded therein; and reconstructing the previous host signal segment given the previous composite signal segment, using said restoration data.

As per claim 9:

Tian discusses a composite information signal in the form of segments with embedded data, the data embedded in a *[composite signal]* (*col.1, lines 52-60 and* col.4, lines 4-65) segment comprising restoration data *(col.7, lines 10-22 and 41-54 and col.9, line 44 - col.10, line 3)* identifying a previous host signal segment (*col.10, lines 28-35*) conditioned on the corresponding previous *[composite signal]* segment *(col.5, lines 30-36 and col.7, lines 41-54)*, and further comprising error

correction data for correcting errors in said previous *[composite signal]* segment. *(col.5, lines 41- 46 and col.10, lines 48-65)*

Tian discloses embedding hidden data in media signals which includes hiding auxiliary data wherein the method compresses a first media signal and embeds the first media signal into a second media signal (*col.1, lines 52-60).* Tian includes dividing or segmenting the host signal into blocks and regions where this method can be used to hide one media signal into another (such as one image into another) (*col.5, lines 21-29).* Although, Tian obviously suggests combining embedded data that forms or produces a composite signal, however, did not clearly disclose a composite signal.

Lee discloses the method and apparatus for carrying auxiliary data in a digital signal without affecting the perceived quality of the signal (col.1, lines 13-15 and 40-44). Thus, it would be desirable to provide auxiliary data in a (host) primary data signal *(col.15, lines 55-56)* using the primary data signal itself rather than carrying additional bits in a separate auxiliary data signal. Hence, Lee discloses a system for embedding a plurality of auxiliary digital information bits into an existing primary digitally encoded signal to form an unobjectionable composite digital signal *(col.1, line 64 – col.2, line 9 and col.8, lines 10-12).*

Therefore, it would have been obvious for a person of ordinary skills in the art at the time the invention was made to combine the teachings of Tian and Lee to include a composite signal because it is desirable to embed auxiliary data into host

primary signal without degrading the quality of the host signal and to carry additional bits in a separate auxiliary data signal (Lee - col.1, lines 40-67).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leynna T. Truvan whose telephone number is (571) 272-3851. The examiner can normally be reached on Monday - Thursday (7:00 - 5:00PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Vu can be reached on (571) 272-3859. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/L. T. T./
Examiner, Art Unit 2435

/Kimyen Vu/

Supervisory Patent Examiner, Art Unit 2435